

WHAT IS CLAIMED IS:

1. A method for capturing and analyzing motion comprising:  
defining a standard motion;  
receiving a first signal from a first sensor, the first signal being representative of a motion under analysis;  
receiving a second signal from a second sensor, the second signal being representative of the motion under analysis;  
synchronizing the first signal to the second signal; and  
comparing the motion under analysis represented by the synchronized first signal and second signal to the standard motion.
2. The method of Claim 1, wherein comparing the motion under analysis includes identifying when the motion under analysis falls outside of an acceptable range of motion in relation to the standard motion.
3. The method of Claim 1, further comprising adjusting the motion under analysis based on the comparison of the synchronized first signal and second signal to the standard motion.
4. The method of Claim 1, further comprising logging an intended result of the motion under analysis.
5. The method of Claim 4, further comprising adjusting the motion under analysis based on the comparison of the synchronized first signal and second signal to the intended result of the motion under analysis.
6. The method of Claim 1, further comprising initiating a trigger event to begin receiving the first signal.

7. The method of Claim 1, further comprising initiating a trigger event to terminate reception of the first signal.

8. The method of Claim 1, further comprising initiating a trigger event to begin receiving the second signal.

9. The method of Claim 1, further comprising initiating a trigger event to terminate reception of the second signal.

10. The method of Claim 1, further comprising time-stamping the first signal.

11. The method of Claim 1, further comprising time-stamping the second signal.

12. The method of Claim 2, wherein the first signal is a video signal.

13. The method of Claim 12, wherein the second signal represents position information.

14. The method of Claim 13, further comprising reconstructing the motion under analysis using the position information.

15. The method of Claim 14, further comprising comparing the reconstructed motion to the standard motion.

16. The method of Claim 1, further comprising generating a composite display of the first signal and the second signal.

17. The method of Claim 14, further comprising generating a composite display of the video signal and the reconstructed motion under analysis.

18. The method of Claim 17, further comprising analyzing the video signal in relation to the position information when the motion under analysis falls outside of the acceptable range of motion.

19. The method of Claim 1, wherein the standard motion is a generally accepted ideal motion for the motion under analysis.

20. The method of Claim 1, wherein the standard motion is an ideal motion for a subject executing the motion under analysis.

21. The method of Claim 1, wherein the standard motion is defined by a user.

22. The method of Claim 12, further comprising receiving the video signal from a video camera.

23. The method of Claim 22, further comprising focusing the video camera on a subject providing the motion under analysis.

24. The method of Claim 13, further comprising positioning sensors for capturing the position information on a subject providing the motion under analysis.

25. The method of Claim 1, further comprising receiving a third signal from a third sensor, the third signal being representative of environmental data;  
synchronizing the third signal to the first signal and the second signal; and  
analyzing the motion under analysis represented by the synchronized first signal and second signal in relation to the third signal.

26. The method of Claim 1, further comprising receiving a fourth signal from a fourth sensor, the fourth signal being representative of a mechanical or electrical parameter;  
synchronizing the fourth signal to the first signal and the second signal; and

analyzing the motion under analysis represented by the synchronized first signal and second signal in relation to the fourth signal.

27. The method of Claim 2, further comprising providing visual feedback when the motion under analysis falls outside the acceptable range of motion.

28. The method of Claim 2, further comprising providing audio feedback when the motion under analysis falls outside the acceptable range of motion.

29. The method of Claim 1, further comprising accepting a query from a user when comparing the motion under analysis represented by the synchronized first signal and second signal to the standard motion.

30. The method of Claim 24, wherein the sensors are magnetic sensors.

31. The method of Claim 24, wherein the sensors are optical sensors.

32. The method of Claim 1, wherein receiving the first signal and receiving the second signal comprise receiving the first signal and the second signal over a network.

33. The method of Claim 32, wherein the network is the Internet.

34. A system for capturing and analyzing motion comprising:  
an input device for receiving data defining a standard motion;  
a first sensing device for generating a first signal representative of a motion under analysis;  
a second sensing device for generating a second signal representative of the motion under analysis;  
a synchronizer for synchronizing the first signal to the second signal; and  
a processor for comparing the motion under analysis represented by the synchronized first signal and second signal to the data defining the standard motion.

35. The system of Claim 34, wherein the input device receives data representing an intended result of the motion under analysis.

36. The system of Claim 35, wherein the processor is configured to evaluate the motion under analysis in light of the intended result of the motion under analysis.

37. The system of Claim 24, further comprising a first trigger mechanism for initiating generation of the first signal.

38. The system of Claim 24, further comprising a second trigger mechanism for initiating generation of the second signal.

39. The system of Claim 24, further comprising a time-stamper for time-stamping the first signal.

40. The system of Claim 24, further comprising a time-stamper for time-stamping the second signal.

41. The system of Claim 24, wherein the first sensing device is a video camera.

42. The system of Claim 24, wherein the first signal is a video signal.

43. The system of Claim 24, wherein the second sensing device is a motion sensor.

44. The system of Claim 43, wherein the second signal represents position information.

45. The system of Claim 43, wherein the motion sensor is a magnetic sensor.

46. The system of Claim 43, wherein the motion sensor is an optical sensor.

47. A system for capturing and analyzing motion comprising:  
means for defining a standard motion;  
means for receiving a first signal from a first sensor, the first signal being representative of a motion under analysis;  
means for receiving a second signal from a second sensor, the second signal being representative of the motion under analysis;  
means for synchronizing the first signal to the second signal; and  
means for comparing the motion under analysis represented by the synchronized first signal and second signal to the standard motion.

48. The system of Claim 47, further comprising means for adjusting the motion under analysis based on the comparison of the synchronized first signal and second signal to the standard motion.

49. The system of Claim 47, further comprising means for time-stamping the first signal and the second signal.

50. The system of Claim 47, wherein the second signal represents position information.

51. The system of Claim 50, further comprising means for reconstructing the motion under analysis using the position information.

52. The system of Claim 51, wherein the processor is configured to compare the reconstructed motion to the standard motion.

53. The system of Claim 47, further comprising a processor for generating a composite display of the first signal and the second signal.

54. The system of Claim 51, further comprising a processor for generating a composite display signal of the video signal and the reconstructed motion under analysis.

55. The system of Claim 54, further comprising a display for displaying the composite display signal of the video signal and the reconstructed motion under analysis.